BLUEFISH FIGURES

Figure 1. Times series of bluefish commercial landings (mt) along the Atlantic coast.

Figure 2. Times series of bluefish recreational landings (000s) along the Atlantic coast.

Figure 3 . Average (±1 std dev) bluefish recreational catch, by wave, 1982-2004.

Figure 4. Frequency distribution of Florida commercial samples (1998-2003) and North Carolina length frequency for medium market grade landingsfor 1998-2003 combined.

Figure 5. Length distribution of Atlantic coast bluefish commercial landings.

Figure 6. Length distributions of Atlantic coast bluefish recreational landings.

Figure 7. Bluefish recreational catch per effort from MFRSS estimates.

Spring cohorts

MA fall trawl survey
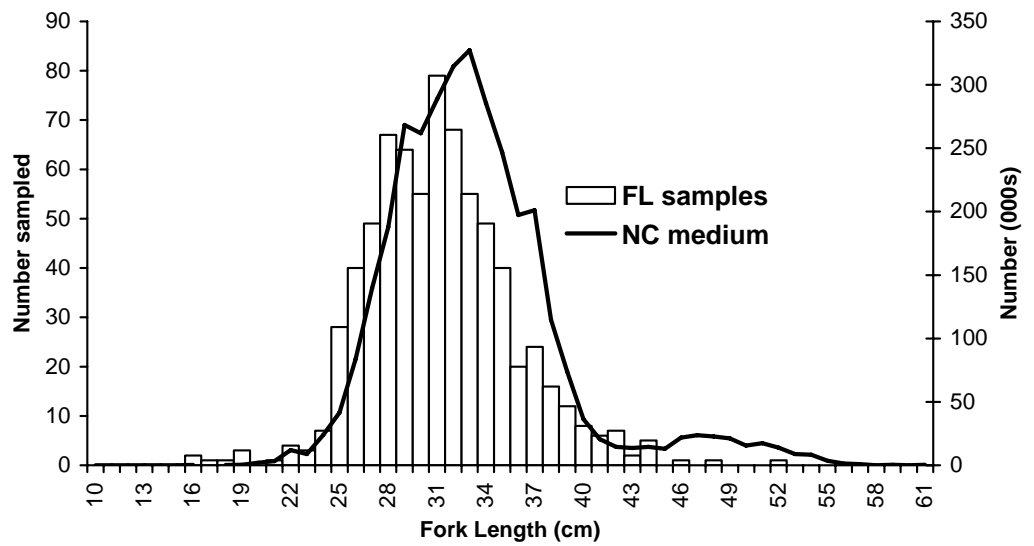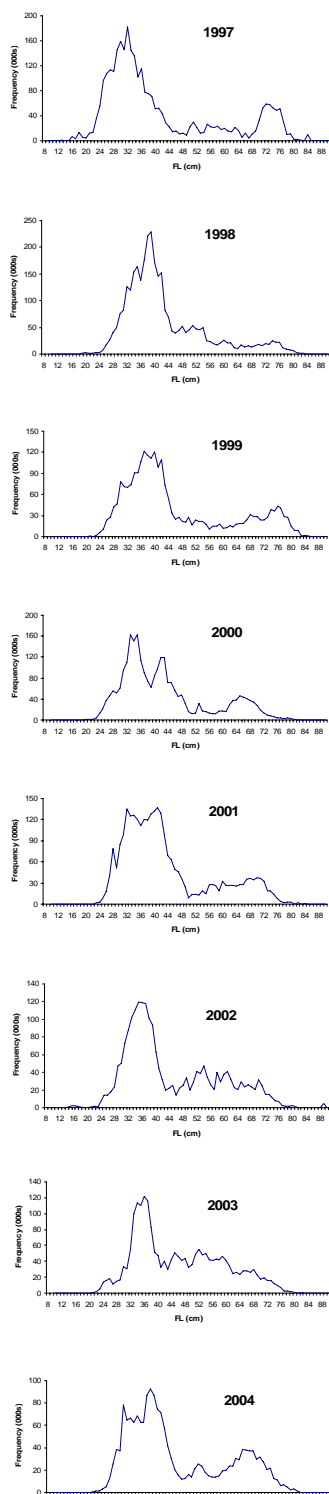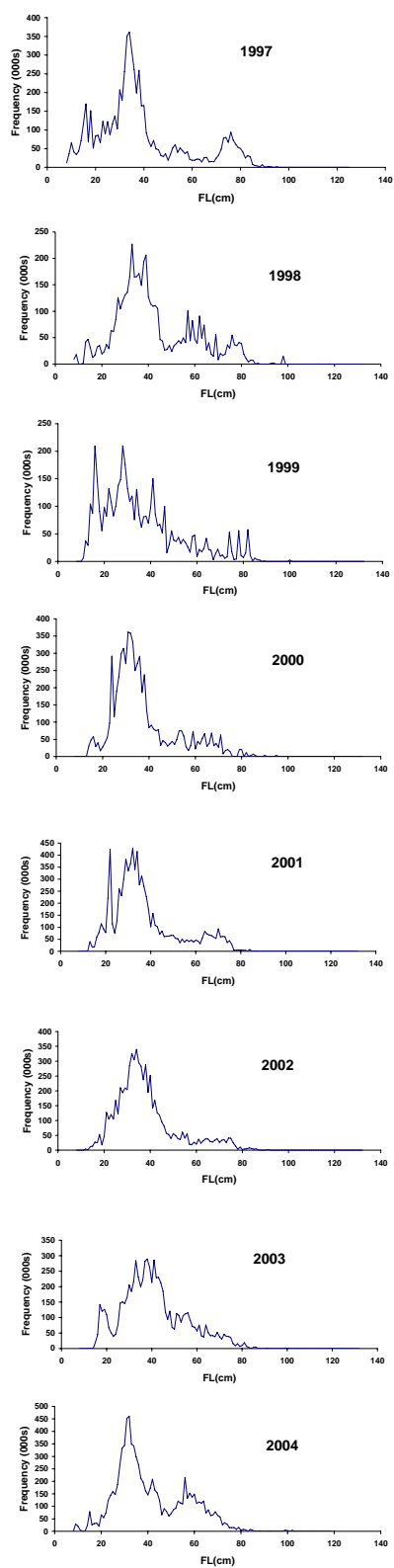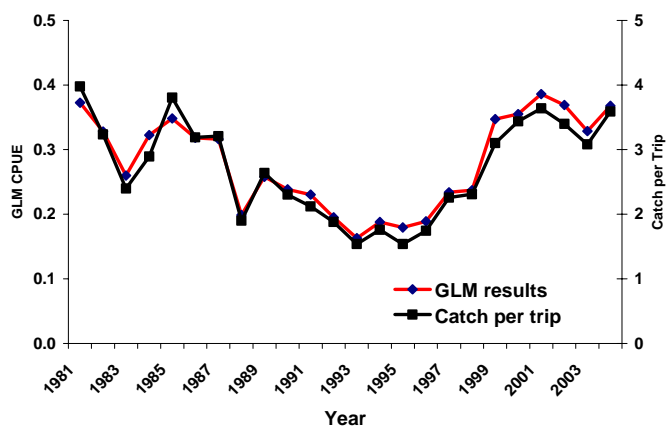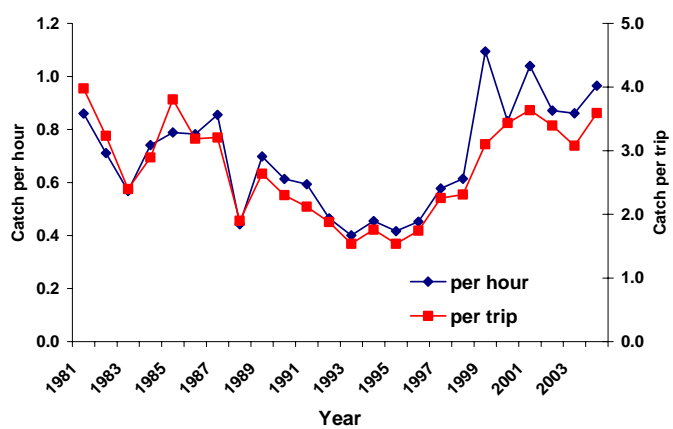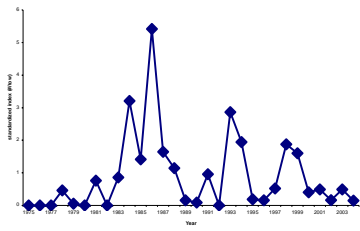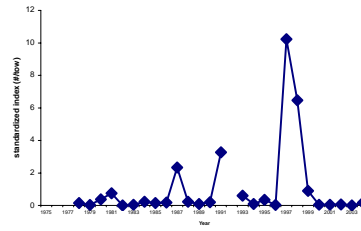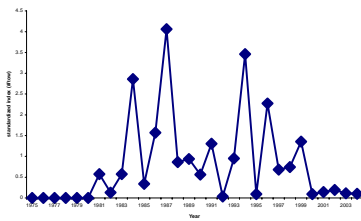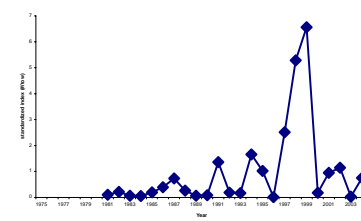
Summer cohorts

MA fall trawl survey

RI trawl survey

RI trawl survey

CT trawl survey
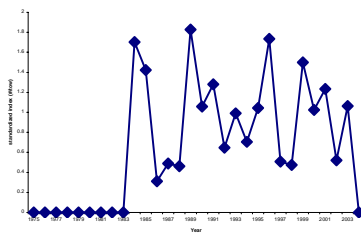
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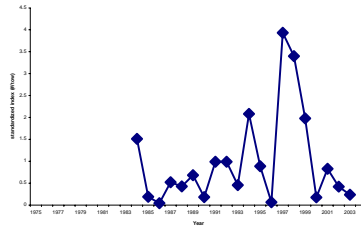
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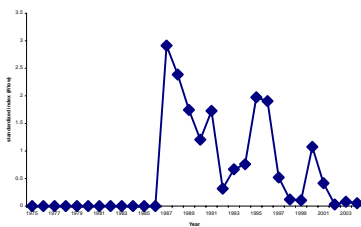
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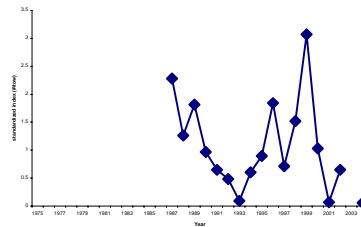
NJ trawl survey
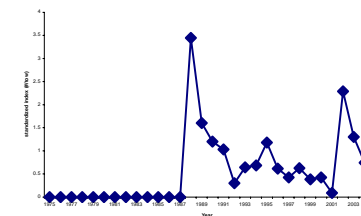
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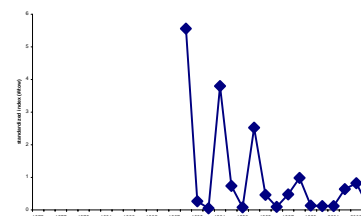
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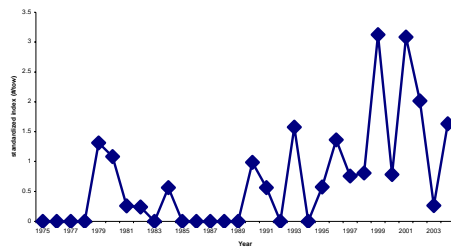
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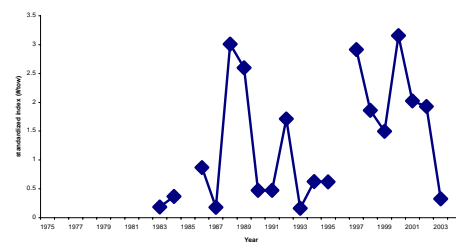
DE juvenile survey
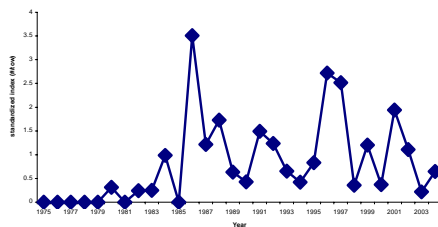
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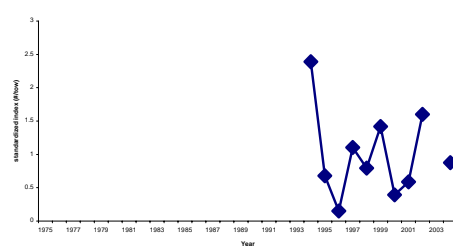
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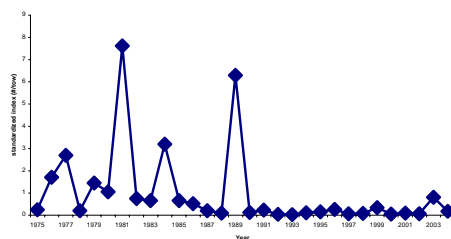
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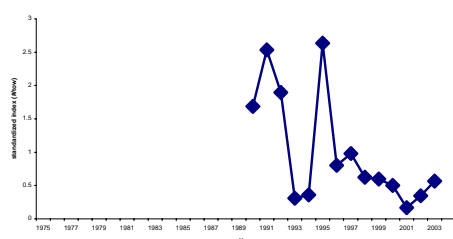
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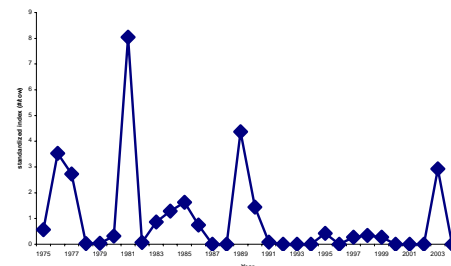
NMFS Fall inshore
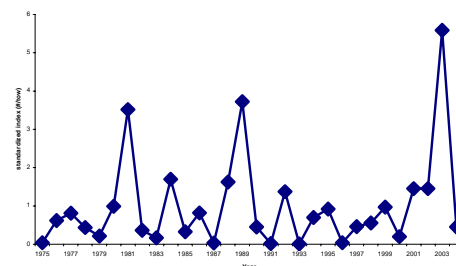
Figure 8. Age 0 spring and summer cohort by survey program, 1975-2004.
Indices standardized to the series mean.
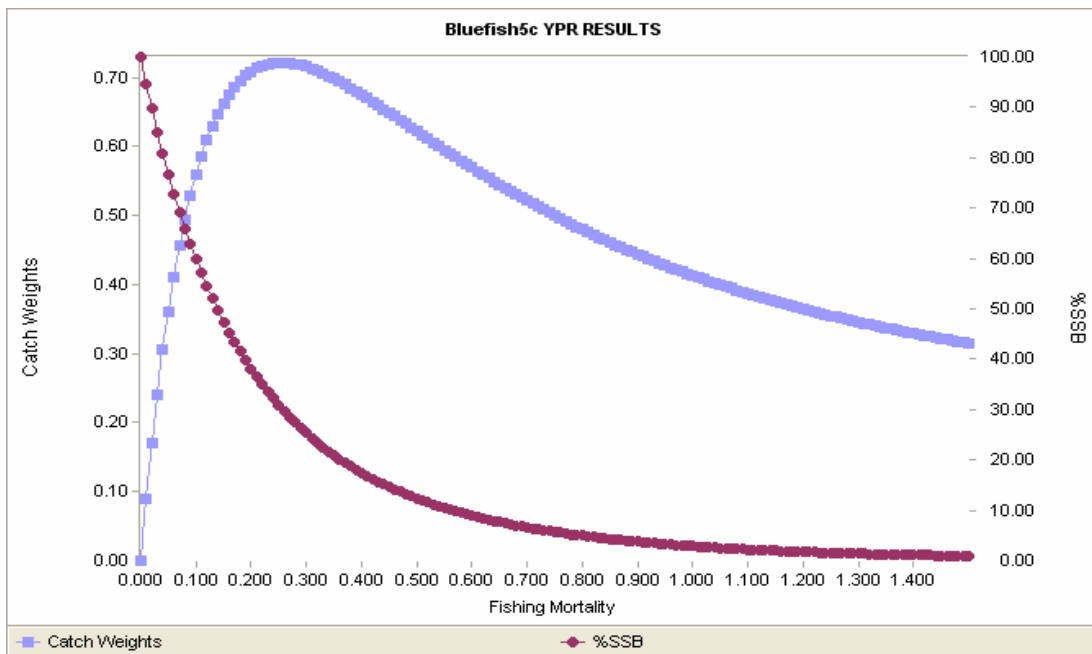
Figure 9. Yield per recruit and %SPR from Thompson-Bell yield per recruit model.

Figure 10. Stock-recruitment relationship for Atlantic coast bluefish fit to a Beverton-Holt S/R model. Stock and recruit estimates from ASAP model output.

alpha=35426.6
beta=41159.4
Steepness=0.74

Recruitment (age-0, millions)

Millions of pounds

Metric tons

Spawning Stock Biomass (SSB)
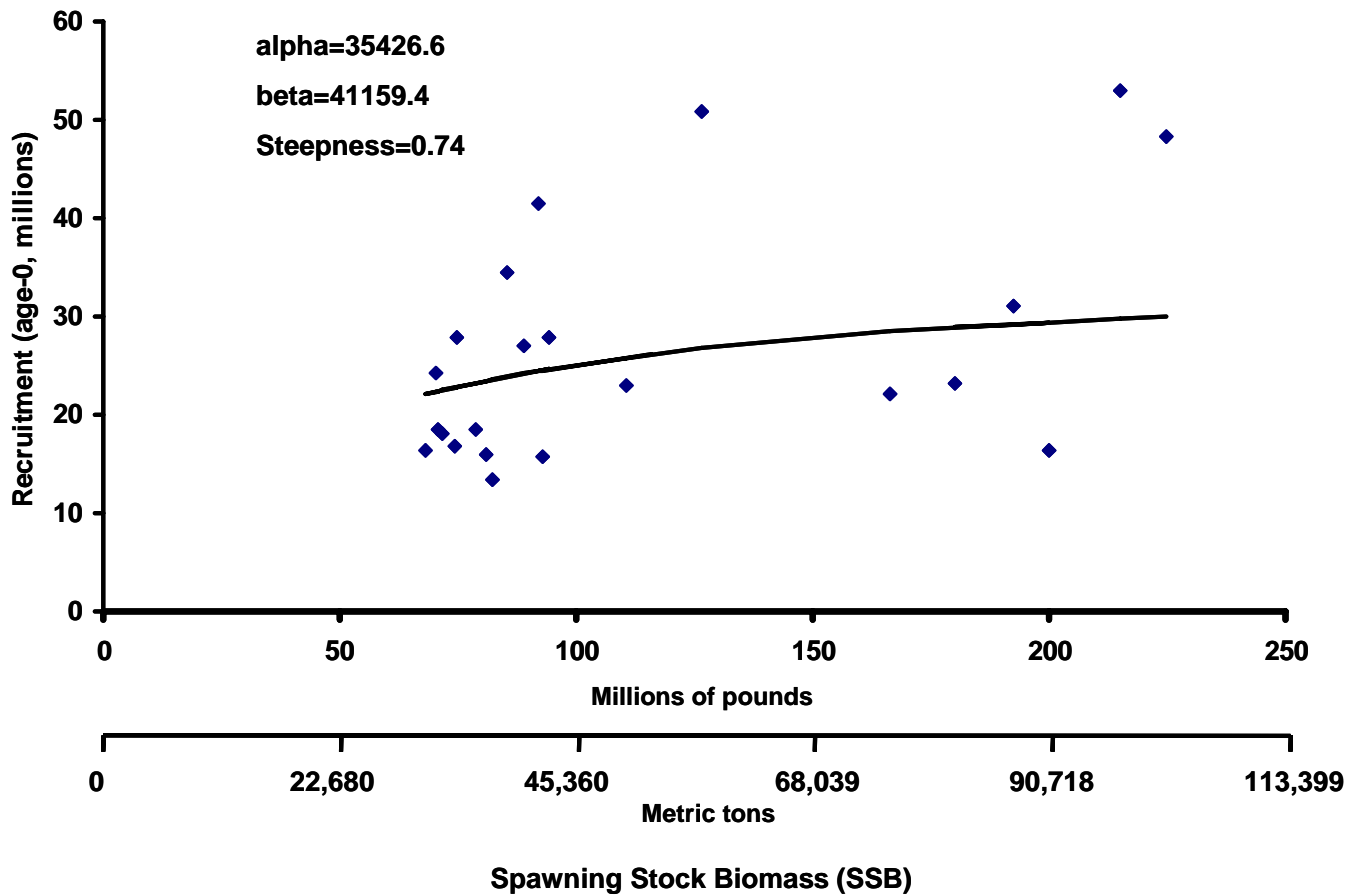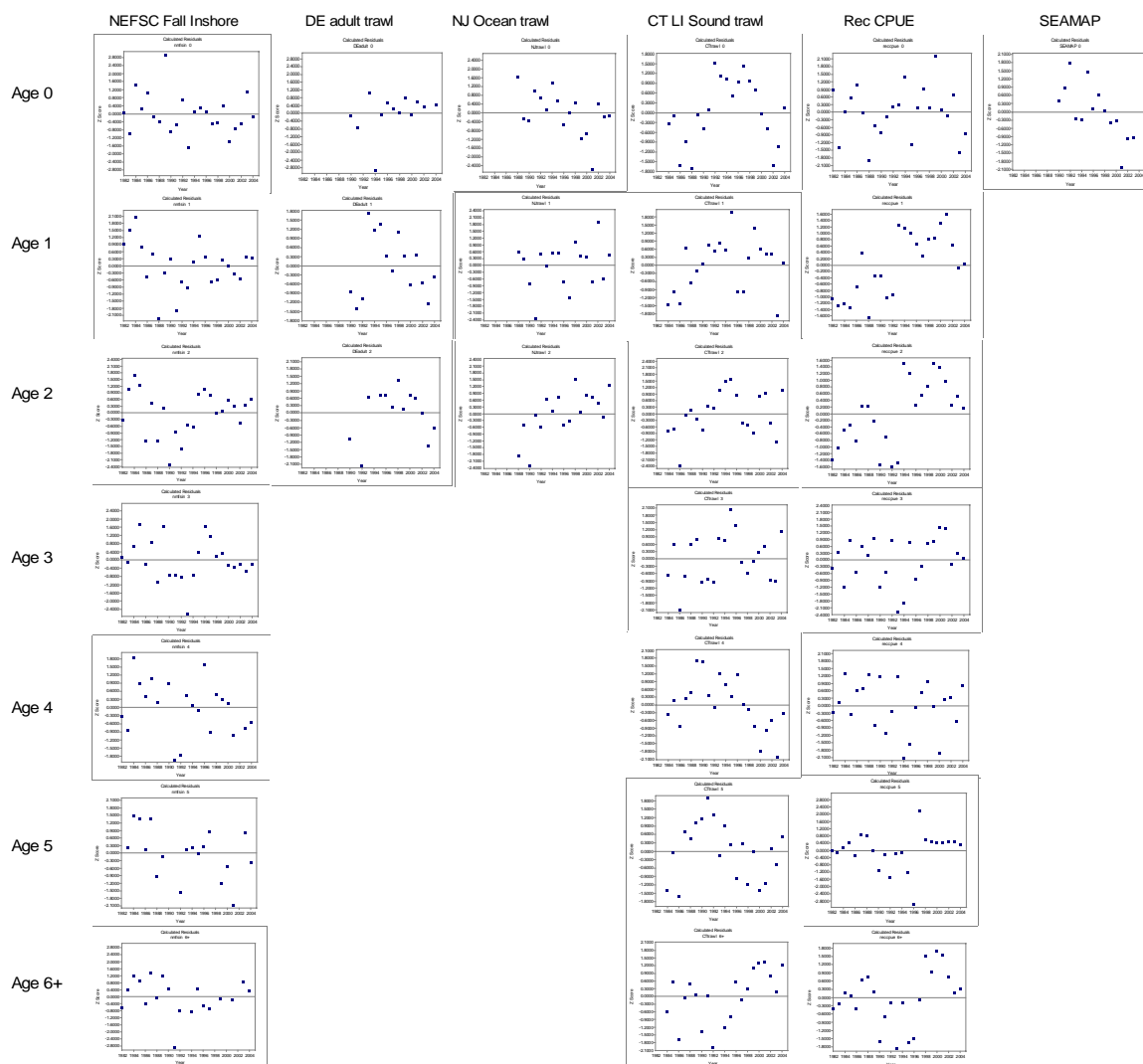
Figure 11. Residuals of survey index fits from ADAPT model, by index.

Figure 12. Bootstap distributions and cumulative frequencies from ADAPT model, based on 1000 bootstrap runs.
A) Jan 1 population size (number of fish (000s)); B) mean biomass (000s lbs) ;
C) Spawning biomass (000s lbs)

Figure 13. Results from retrospective analysis of fishing mortality and population estimates in ADAPT model.

Figure 14. Predicted vs. observed annual catch at age from ASAP catch at age model.

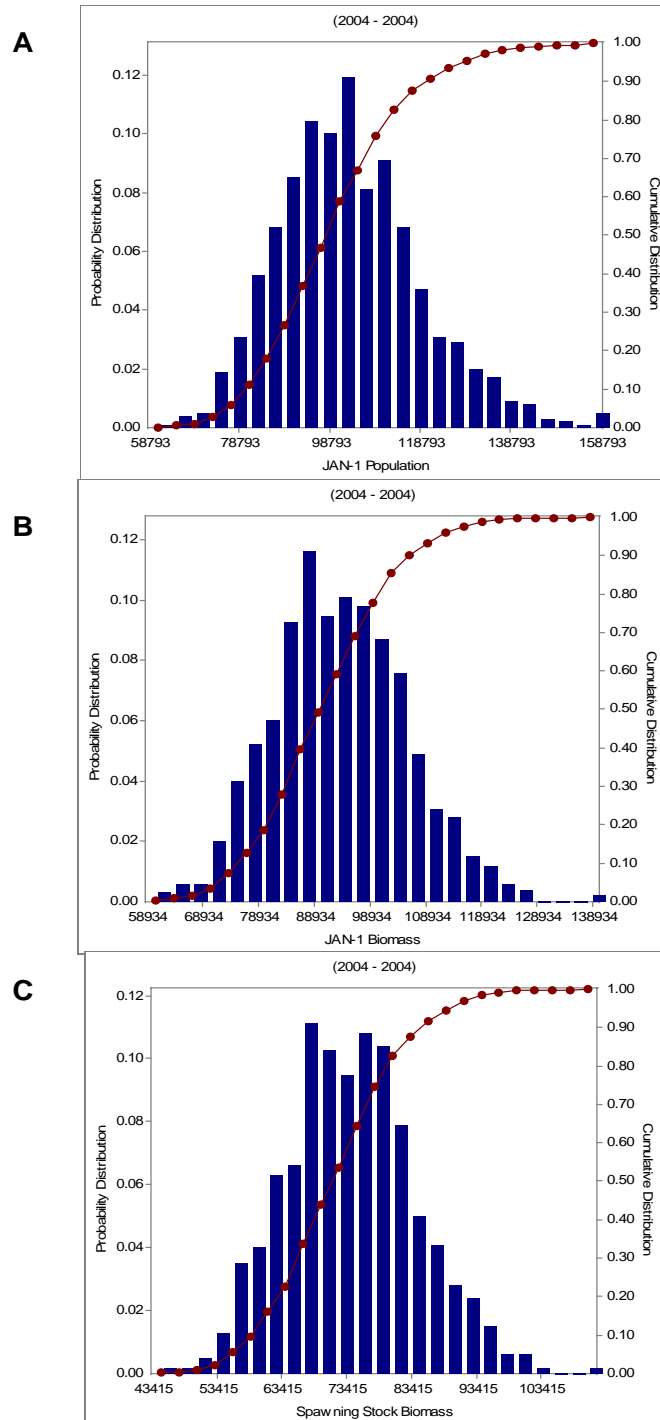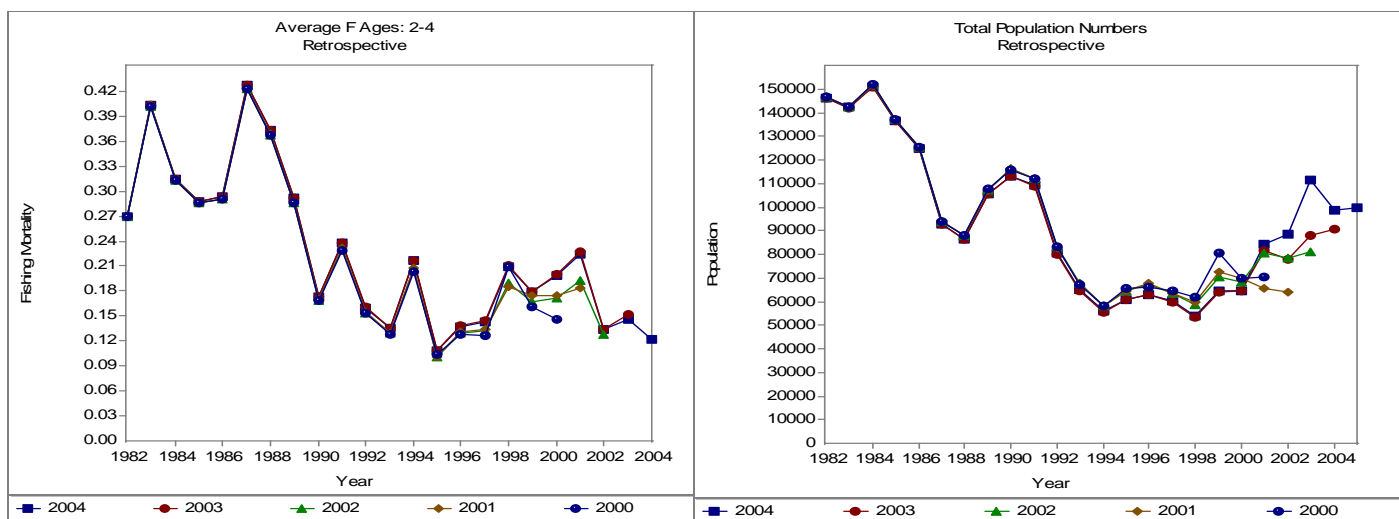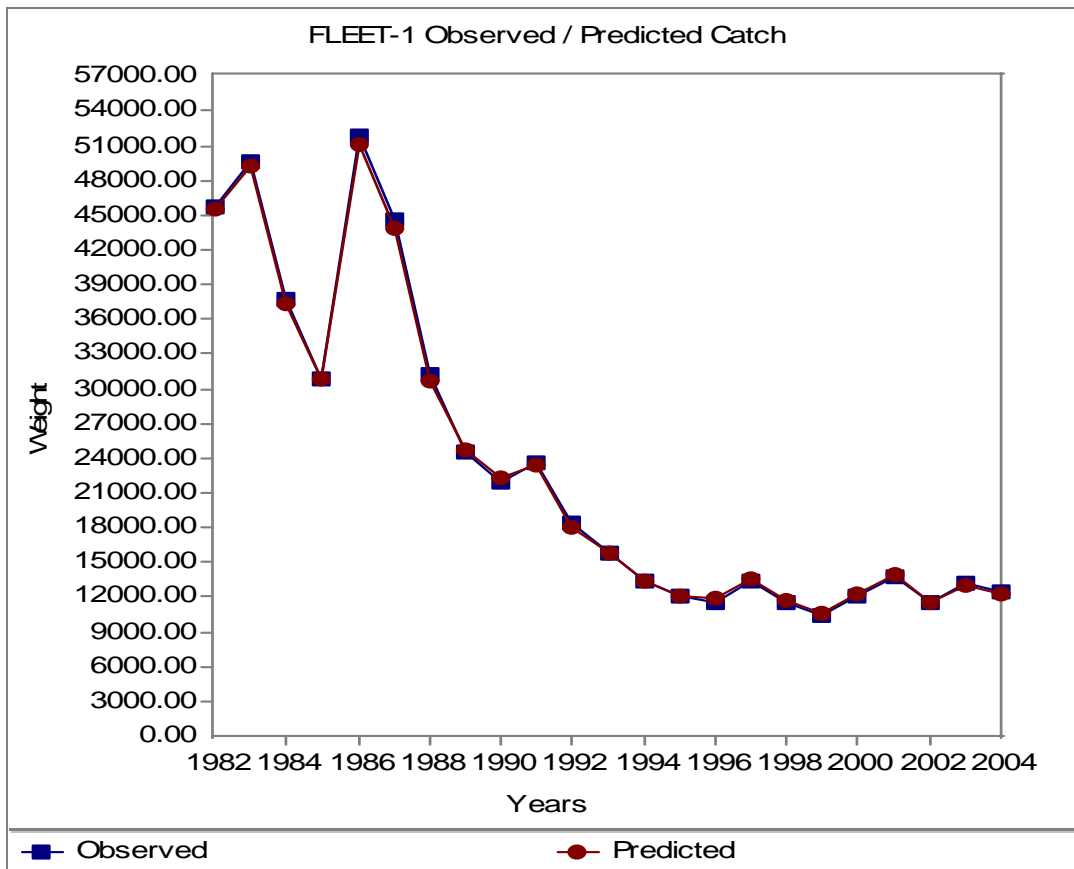Figure 15. Predicted vs. observed catch at age from ASAP catch at age model, by year. (Note that ages on graph have been re-scaled to age +1 (age 1=age 0, etc.)
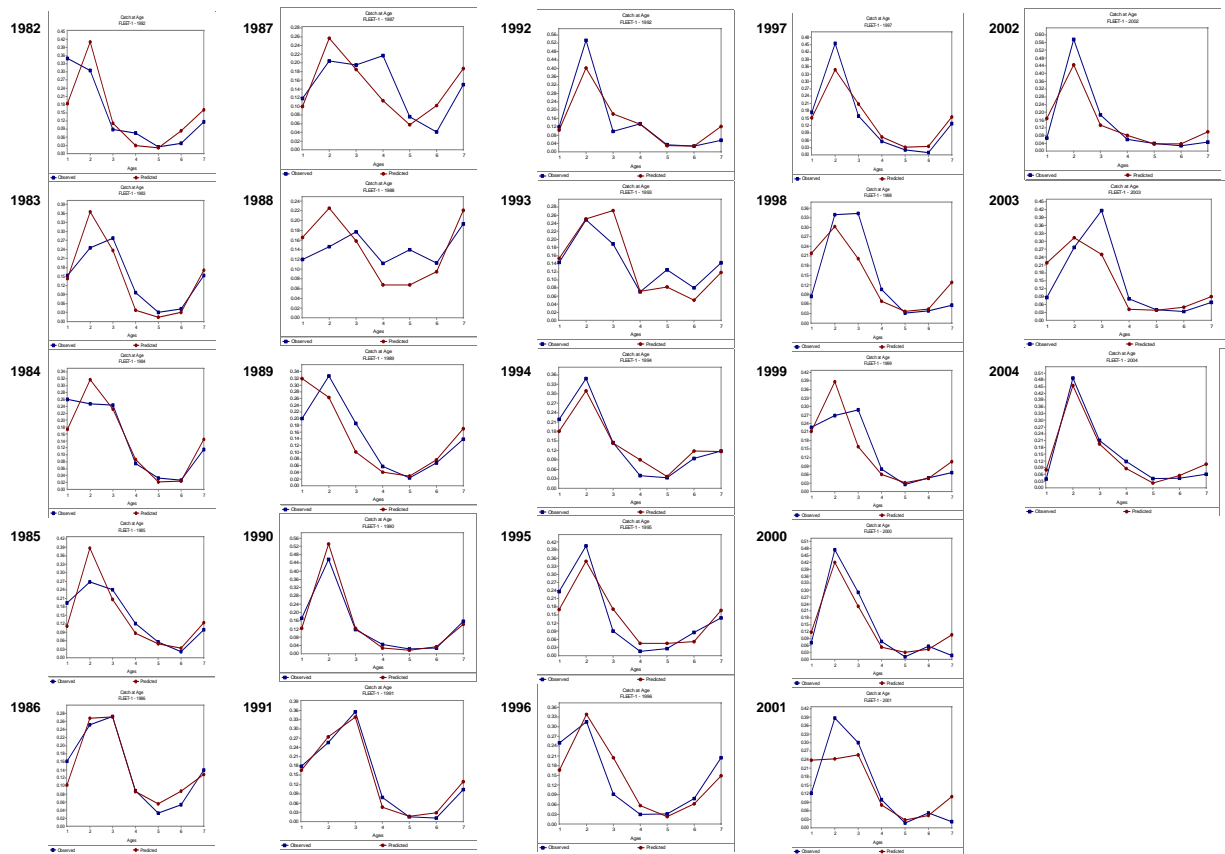
Figure 15. Predicted vs. observed catch at age from ASAP catch at age model, by year.
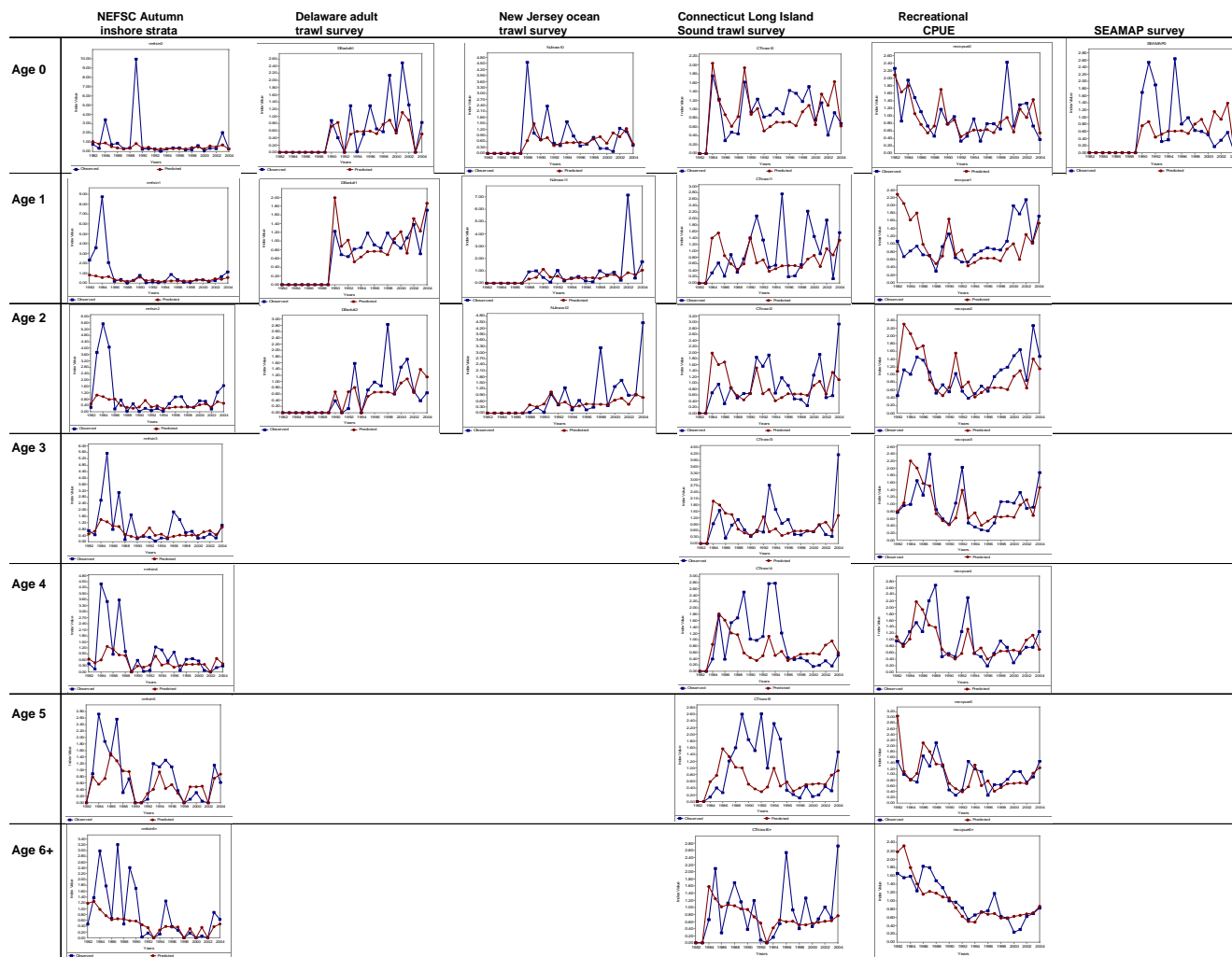(Note that ages on graph have been re-scaled to age +1 (age 1=age 0, etc.)

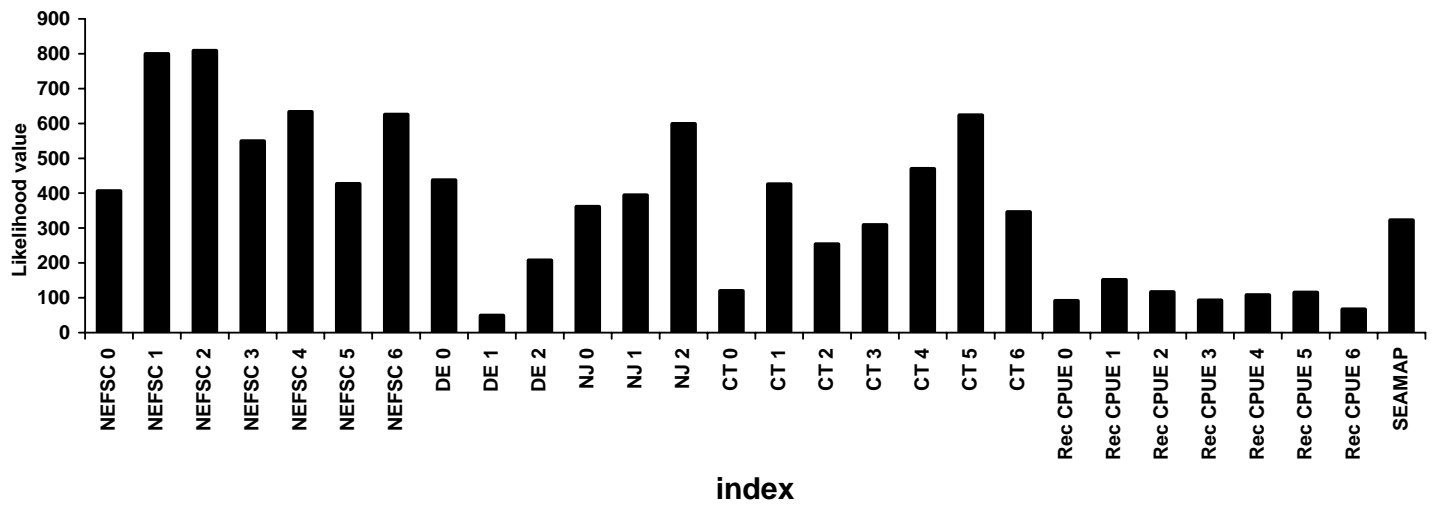Figure 16 . Observed (blue) vs. predicted (red) indices at age by survey from the ASAP catch at age model results.

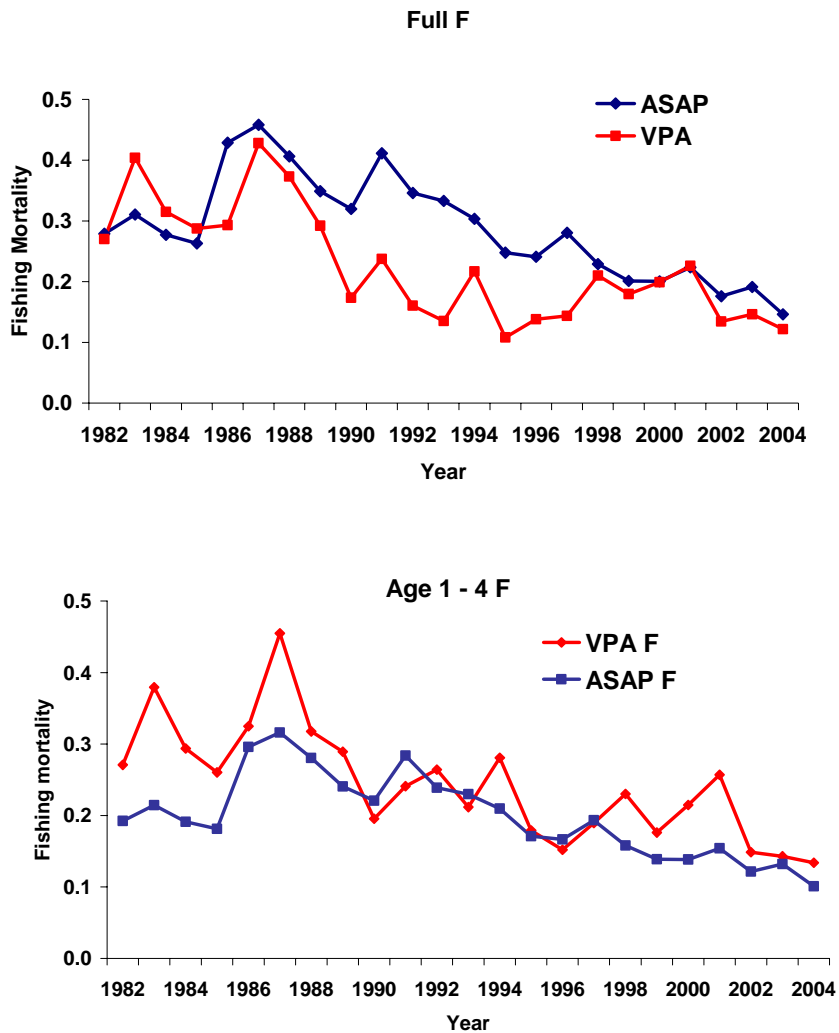Figure 17. Likelihood values by index from preferred ASAP model run.

Figure 18. F_{mult} estimates from ASAP and $F_{age\,2-4}$ from ADAPT (vpa) models. Bottom figure includes age 1 to 4 average F for VPA and ASAP.
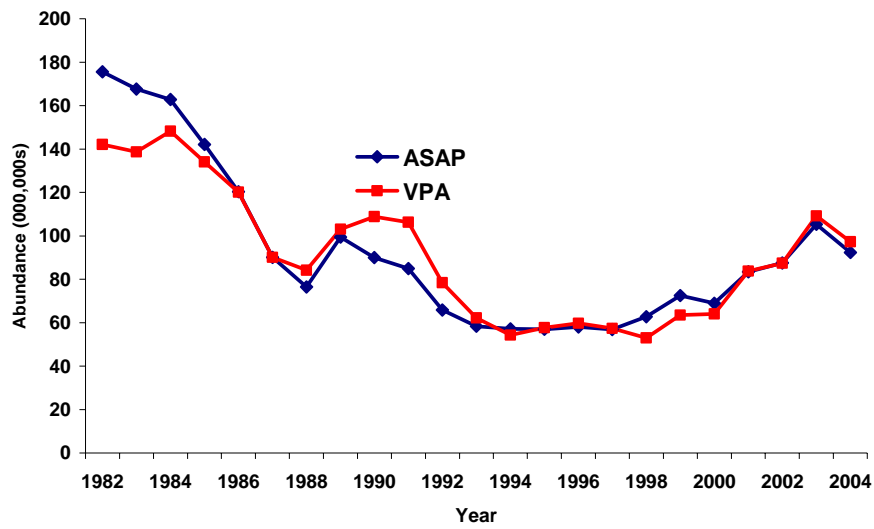
Figure 19. January 1 population abundance estimates from ASAP catch at age model and ADAPT VPA.
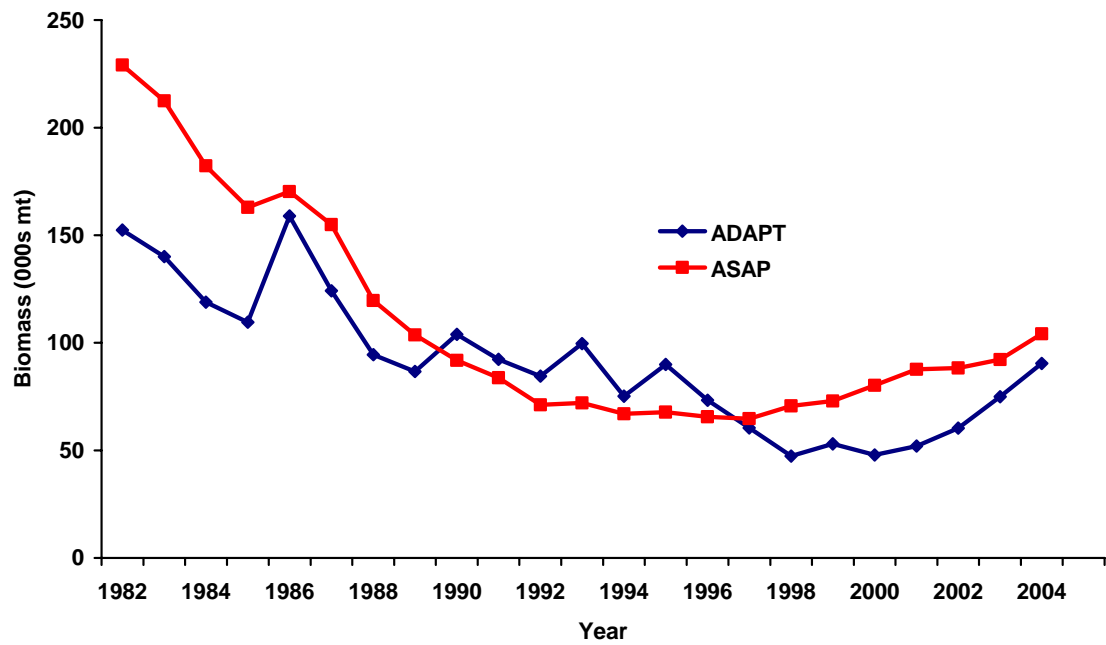
Figure 20. Biomass esimates (mt) from ASAP catch at age model and ADAPT vpa model.